

Table 4-12
Area Use Factors Used to Evaluate Exposure of Wildlife Receptors

	Alligator Snapping Turtle	Neotropic Cormorant	Great Blue Heron	Spotted Sandpiper	Marsh Rice Rat	Raccoon	Killdeer	White-Faced Ibis ^a	Brown Pelican ^a	Bald Eagle ^a		
Exposure Unit ^b	All aquatic shorelines of the site	All aquatic areas of the site	All aquatic shorelines of the site	All aquatic shorelines of the site	All aquatic shorelines of the site	Terrestrial area of the peninsula	Terrestrial area north of I- 10	All aquatic shorelines of the site ^c	All aquatic areas of the site	All aquatic shorelines of the site	breeding ^d	wintering ^d
Estimated Size of Exposure Unit	37.61 km	2.52 km ²	37.6 km	37.6 km	37.6 km	0.36 km ²	0.13 km ²	0.38 km ²	2.52 km ²	2.52 km ²	2.52 km ²	
Home Range ^e	0.778 km	ND	2.7 km	1.5 km	0.075 km	0.52 km ²	0.06 km ²	12 km ²	1,257 km ²	14.5 km ²	125 km ²	
AUF ^f	1	1	1	1	1	0.68	1	0.03	0.002	0.17	0.02	

Notes

AUF = area use factor

a - Listed species; all other life history parameters are based on surrogate receptors, which are spotted sandpiper for ibis and great blue heron for bald eagle.

b - The exposure unit is calculated in units that match the units of the home range so that an AUF may be calculated. See Figures 4-13 through 4-17 for illustrations of these exposure units.

c - Home range for white-faced ibis is given on a km² basis, which was converted to relevant habitat area at the site by multiplying total shoreline length by a width of 10 m around the shoreline based on shallow water foraging strategy of this species (Safran et al. 2000).

d - Bald eagles have primarily been noted as wintering in site vicinity, but their breeding distribution may include the site vicinity, so AUFs are calculated for both breeding and non-breeding eagles.

e - Receptor home ranges are further described in Table 3-12.

f - Receptors whose home range is less than the exposure unit are assigned an AUF of 1; for receptors lacking home range data, an AUF of 1 is assumed.

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Table 4-13
Daily Ingestion Rates of COPCs for Aquatic and Upland (North of I-10) Wildlife Receptors

Analyte	Ingestion Rate (mg/kg bw-day)																					
	Great Blue Heron		Spotted Sandpiper		Neotropic Cormorant		Killdeer		Marsh Rice Rat		Raccoon		Alligator Snapping Turtle		White-Faced Ibis		Bald Eagle: Breeding		Bald Eagle: Wintering			
	CT	RM	CT	RM	CT	RM	CT	RM	CT	RM	CT	RM	CT	RM	CT	RM	CT	RM	CT	RM		
Cadmium	0.0015	0.0021	0.071	0.087	0.0013	0.0016	0.68	1.2	0.048	0.061	0.0059	0.0082	8.3×10^{-4}	0.0011	0.0022	0.0027	2.7×10^{-4}	3.6×10^{-4}	2.7×10^{-5}	3.6×10^{-5}	2.7×10^{-6}	
Copper	0.21	0.27	8.1	10	0.41	0.46	1.0	4.9	3.1	3.7	0.43	0.60	0.033	0.042	0.25	0.32	0.036	0.047	0.0008	0.0009		
Mercury	0.010	0.013	0.027	0.042	0.014	0.018	0.19	0.54	0.016	0.021	0.0048	0.0089	9.7×10^{-4}	0.0012	0.0008	0.0013	0.0018	0.0023	0.00018	0.00023	3.0×10^{-5}	
Nickel	0.074	0.13	1.7	2.1	0.14	0.19	0.26	0.92	0.63	0.78	0.061	0.12	0.010	0.016	0.053	0.065	0.013	0.022	0.0013	0.0022	0.0003	
Zinc	18	20	24	28	12	12	56	100	17	21	6.0	8.1	1.8	2.0	0.75	0.89	3.1	3.5	0.31	0.35	0.02	
Bis(2-ethylhexyl)phthalate	0.026	0.033	0.21	0.26	0.029	0.029	8.2×10^{-4}	0.0096	0.089	0.11	0.014	0.019	0.0026	0.0033	0.0066	0.0082	0.0046	0.0058	0.00046	0.00057	6.0×10^{-5}	
TEQ _{DF, a}	6.8×10^{-6}	1.6×10^{-5}	1.7×10^{-4}	3.8×10^{-4}	1.5×10^{-6}	7.8×10^{-6}	4.3×10^{-5}	1.3×10^{-4}	N/A	N/A	N/A	N/A	4.4×10^{-7}	1.2×10^{-6}	4.6×10^{-6}	1.2×10^{-5}	1.2×10^{-6}	2.7×10^{-6}	2.7×10^{-7}	3.0×10^{-9}	1.6×10^{-8}	
TEQ _{P, B}	1.0×10^{-6}	1.3×10^{-6}	5.7×10^{-6}	8.4×10^{-6}	6.3×10^{-7}	1.2×10^{-6}	4.2×10^{-8}	5.6×10^{-8}	N/A	N/A	N/A	N/A	9.7×10^{-8}	1.3×10^{-7}	1.8×10^{-7}	2.6×10^{-7}	1.8×10^{-7}	2.3×10^{-7}	1.8×10^{-8}	2.8×10^{-8}	1.3×10^{-9}	2.3×10^{-9}
TEQ _{DF, M}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.3×10^{-6}	1.7×10^{-5}	3.5×10^{-6}	8.9×10^{-6}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TEQ _{P, M}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.4×10^{-7}	6.8×10^{-7}	1.8×10^{-7}	2.5×10^{-7}	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Total PCBs	0.057	0.098	0.59	1.4	0.015	0.038	0.030	0.038	0.073	0.17	0.029	0.060	0.0037	0.0055	0.018	0.045	0.010	0.017	0.0010	0.0017	3.0×10^{-5}	0.0001

Notes

CT = central tendency

RM = reasonable maximum

a - Toxicity equivalent for dioxins and furans calculated using avian toxicity equivalency factors with nondetects set at one-half the detection limit.

b - Toxicity equivalent for dioxin-like PCBs calculated using avian toxicity equivalency factors with nondetects set at one-half the detection limit.

c - Toxicity equivalent for dioxins and furans calculated using mammalian toxicity equivalency factors with nondetects set at one-half the detection

d - Toxicity equivalent for dioxin-like PCBs calculated using mammalian toxicity equivalency factors with nondetects set at one-half the detection limit.